

Amendments to the Specification:

Please replace the paragraph beginning at page 7, line 21 as with the following amended paragraph:

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The rare earth metal can be yttrium, lanthanum, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, cerium, praseodymium, neodymium, promethium, samarium or lutetium. In general, the rare earth metal salt can be any rare earth metal salt that is soluble in the solvent(s) contained in the precursor solution and that, when being processed to form an intermediate (e.g., a metal oxyhalide intermediate), forms rare earth oxide(s) (e.g.,  $Y_2O_3$ ). Such salts can have, for example, the formula  $M(O_2C-(CH_2)_n-$   ~~$CXX'X''(O_2C-(CH_2)_m-CX''X'''X''''')$~~   $(O_2C-(CH_2)_p-CX''''X'''''X''''')$   $M(O_2C-(CH_2)_n-$   ~~$CXX'X''(O_2C-(CH_2)_m-CX''X'''X''''')$~~   $(O_2C-(CH_2)_p-CX''''X'''''X''''')$  or  $M(OR)_3$ . M is the rare earth metal. n, m and p are each at least one but less than a number that renders the salt insoluble in the solvent(s) (e.g., from one to ten). Each of X, ~~X', X'', X''', X''''', X'''''''~~, ~~X''''''~~, ~~X'''''''~~ and ~~X''''''''~~ ~~X', X'', X''', X''''', X'''''''~~ and ~~X''''''''~~ is H, F, Cl, Br or I. R is a carbon containing group, which can be halogenated (e.g.,  $CH_2CF_3$ ) or nonhalogenated. Examples of such salts include nonhalogenated carboxylates, halogenated acetates (e.g., trifluoroacetate, trichloroacetate, tribromoacetate, triiodoacetate), halogenated alkoxides, and nonhalogenated alkoxides. Examples of such nonhalogenated carboxylates include nonhalogenated acetates (e.g.,  $M(O_2C-CH_3)_3$ ).

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Please replace the paragraph beginning at page 8, line 6 as with the following amended paragraph:

Typically, the alkaline earth metal is barium, strontium or calcium. Generally, the alkaline earth metal salt can be any alkaline earth metal salt that is soluble in the solvent(s) contained in the precursor solution and that, when being processed to form an intermediate (e.g., a metal oxyhalide intermediate), forms an alkaline earth halide compound (e.g.,  $BaF_2$ ,  $BaCl_2$ ,  $BaBr_2$ ,  $BaI_2$ ) prior to forming alkaline earth oxide(s) (e.g.,  $BaO$ ). Such salts can have, for

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example, the formula  $\text{M}'(\text{O}_2\text{C}-(\text{CH}_2)_n-\text{CXX}'\text{X}'')(\text{O}_2\text{C}-(\text{CH}_2)_m-\text{CX}'''X''''X''''')$  or  $\text{M}'(\text{OR})_2$   $\text{M}'(\text{O}_2\text{C}-(\text{CH}_2)_n-\text{CXX}'\text{X}'')(\text{O}_2\text{C}-(\text{CH}_2)_m-\text{CX}'''X''''X''''')$  or  $\text{M}'(\text{OR})_2$ .  $\text{M}'$   $\text{M}'$  is the alkaline earth metal. n and m are each at least one but less than a number that renders the salt insoluble in the solvent(s) (e.g., from one to ten). Each of  $\text{X}$ ,  $\text{X}'$ ,  $\text{X}''$ ,  $\text{X}'''$ ,  $\text{X}''''$  and  $\text{X}'''''$  is  $\text{H}$ ,  $\text{F}$ ,  $\text{Cl}$ ,  $\text{B}$  or,  $\text{I}$ . R can be a halogenated or nonhalogenated carbon containing group. Examples of such salts include halogenated acetates (e.g., trifluoroacetate, trichloroacetate, tribromoacetate, triiodoacetate).

Please replace the paragraph beginning at page 8, line 17 as with the following amended paragraph:

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Generally, the transition metal is copper. The transition metal salt should be soluble in the solvent(s) contained in the precursor solution. Preferably, during conversion of the precursor to the intermediate (e.g., metal oxyhalide), minimal cross-linking occurs between discrete transition metal molecules (e.g., copper molecules). Such transition metals salts can have, for example, the formula formula  $\text{M}''(\text{CXX}'\text{X}''-\text{CO}(\text{CH})_a\text{CO}-\text{CX}'''X''''X''''')$  ( $\text{CX}''''''X''''''X''''''$   $\text{CO}(\text{CH})_b\text{CO}-\text{CX}''''''X''''''X''''''$ ),  $\text{M}''(\text{O}_2\text{C}-(\text{CH}_2)_n-\text{CXX}'\text{X}'')(\text{O}_2\text{C}-(\text{CH}_2)_m-\text{CX}'''X''''X''''')$  or  $\text{M}''(\text{OR})_2$   $\text{M}''(\text{CXX}'\text{X}''-\text{CO}(\text{CH})_a\text{CO}-\text{CX}'''X''''X''''')$  ( $\text{CX}''''''X''''''X''''''$   $-\text{CO}(\text{CH})_b\text{CO}$   $\text{CX}''''''X''''''X''''''$ ),  $\text{M}''(\text{O}_2\text{C}-(\text{CH}_2)_n-\text{CXX}'\text{X}'')(\text{O}_2\text{C}-(\text{CH}_2)_m-\text{CX}'''X''''X''''')$  or  $\text{M}''(\text{OR})_2$ .  $\text{M}''$  is the transition metal. a and b are each at least one but less than a number that renders the salt insoluble in the solvent(s) (e.g., from one to five). Generally, n and m are each at least one but less than a number that renders the salt insoluble in the solvent(s) (e.g., from one to ten). Each of  $\text{X}$ ,  $\text{X}'$ ,  $\text{X}''$ ,  $\text{X}'''$ ,  $\text{X}''''$ ,  $\text{X}'''''$ ,  $\text{X}''''''$ ,  $\text{X}'''''''$ ,  $\text{X}'''''''$ ,  $\text{X}''''''''$  is  $\text{H}$ ,  $\text{F}$ ,  $\text{Cl}$ ,  $\text{Br}$  or  $\text{I}$ . R is a carbon containing group, which can be halogenated (e.g.,  $\text{CH}_2\text{CF}_3$ ) or nonhalogenated. These salts include, for example, nonhalogenated acetates (e.g.,  $\text{M}''(\text{O}_2\text{C}-\text{CH}_3)_2$   $\text{M}''(\text{O}_2\text{C}-\text{CH}_3)_2$ ), halogenated acetates, halogenated alkoxides, and nonhalogenated alkoxides. Examples of such salts include copper trichloroacetate, copper tribromoacetate, copper triiodoacetate,  $\text{Cu}(\text{CH}_3\text{COCHCOCF}_3)_2$ ,  $\text{Cu}(\text{OOCC}_7\text{H}_{15})_2$ ,  $\text{Cu}(\text{CF}_3\text{COCHCOF}_3)_2$ ,  $\text{Cu}(\text{CH}_3\text{COCHCOCH}_3)_2$ ,

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$\text{Cu}(\text{CH}_3\text{CH}_2\text{CO}_2\text{CHCOCH}_3)_2$ ,  $\text{CuO}(\text{C}_5\text{H}_6\text{N})_2$  and  $\text{Cu}_3\text{O}_3\text{Ba}_2(\text{O}-\text{CH}_2\text{CF}_3)_4$ . In certain embodiments, the transition metal salt is a carboxylate salt (e.g., a nonhalogenated carboxylate salt), such as a propionate salt of the transition metal (e.g., a nonhalogenated propionate salt of the transition metal). An example of a nonhalogenated propionate salt of a transition metal is  $\text{Cu}(\text{O}_2\text{CC}_2\text{H}_5)_2$ . In some embodiments, the transition metal salt is a simple salt, such as copper sulfate, copper nitrate, copper iodide and/or copper oxylate. In some embodiments, n and/or m can have the value zero. In certain embodiments, a and/or b can have the value zero.

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